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ABSTRACT

Interest in the Planning, Programming, Budgeting System (PPBS) has waned over the last five years for several reasons. Early rhetoric about PPBS obscured its true character and promised more than it could deliver. Initially, few had the competencies needed to implement it. It is often wrongly believed to be solely a budgeting system. Finally, previous limitations of available computer technology made implementation difficult. In fact, PPBS, much more than a budgeting system, can be an important decision-making tool. It extends the traditional conceptualization of the budget-making process, though it is distinct from zero-based budgeting, and it is complementary to management by objectives (MBO). It can satisfy demands for accountability and is useful in framing the policy issues confronting a governmental agency. It can be considered a subset of systems management. Conditions in the 1980s point to a probable revival of PPBS. Advances in the availability competency in MBO, and greater familiarity with the concept of outcomes will make implementation of PPBS easier. In spite of some shortcomings, PPBS is a powerful tool that the education profession can ill afford to neglect. (Author/JM)

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# PROGRAM BUDGETING REVISITED: REEXAMINING ITS PROMISE FOR THE ENHANCEMENT OF EDUCATIONAL ADMINISTRATION DURING THE 1980s

Stephen J. Knezevich

Relatively little has been heard or written about program budgeting in education for more than five years. By the same token, "Death at an Early Age" would be a premature epitaph. This writer does not join those who believe that it is dead, buried, and never shall rise again. On the contrary, program budgeting was a sound set of concepts when it first appeared on the scene some 15 years ago. It is now more relevant than ever, and can help educational systems cope with the complexities and uncertainties of the 1980s. This time there is less fanfare to get in the way of more objective analyses of its substance and potential contributions. The rhetoric of 10 to 15 years ago cluttered the literature, obscured its fundamental character, and led to misinterpretations of what program budgeting was all about.

Good ideas in educational administration are hard to come by. They are too valuable to be relegated too quickly to the ash heap of promising practices that never fulfilled their potential. It is not unusual to find that a good idea may pass into relative obscurity for a period of years only to return with even greater vigor. Some time away from the spotlight allows for further reflection and refinement as well as for some purging of past excesses and unrealistic expectations. Program budgeting has been going through such a period of late; it shall return someday to fulfill its inherent potential for the enhancement of educational administration and operation during times of severe fiscal cutbacks, difficult program retrenchment, and continuing criticisms. Its merits will be judged by what it can contribute to public education rather than by how it may benefit an innovator.

Many books and articles have been dedicated to program budgeting in education, including some by this writer. Little in the way of serious new literature has emerged during the past five years. This is not intended as a review of the literature or a synopsis of existing works. Rather, its focus will be on what sidetracked interest and implementation of program budgeting in education, what is a rational interpretation of substance or character of program budgeting, and what competencies and support systems are needed to implement it in education.

## Confusion in Terminology

One of the persistent problems is the confusion related to the terminology applied to this system. Thus, what is called program budgeting is also known as PPBS or Planning, Programming, Budgeting System (or the PPB System); PPBES, where the "E" stands for Evaluation; EPPBS, where the "E" represents Education; ERMS or Educational Resource Management System; or the Resource Allocation Decision System (RADS). There probably are others. The two earliest and most common designations are program budgeting and PPBS (or simply PPB). These will be used interchangeably in this writing because of their historical significance, not because they are more precise or better than others. Program budgeting is a complex system of interrelated concepts, analytical tools, and procedures. The economists who gave birth to the system deserve praise for their intellectual contributions, but not for their efforts to communicate the essence of the system. Much of the terminological confusion and misinterpretation of the system can be traced to the special meanings economists attached to common terms such as planning, programming, and budgeting. They failed as well to indicate that other important elements such as analysis and evaluation were parts of the total system, even though not mentioned or inferred in either the term program budgeting or PPBS. In other words, the most popular terms are incomplete and fail to describe or infer the existence of all components essential to the operation of the system.

The rhetoric that surrounded program budgeting during its early years in the federal government and in education compounded the semantic problems. To indulge in rhetoric is to play to the emotions rather than to reason. The objective is to excite, to gain approval rather than to clarify or reveal the soundness of the conceptual framework undergirding the system. The effort to build a better understanding of the nature of the system will begin with the writings of the pioneers in the RAND Corporation and public administration specialists in federal government who developed, adapted, and led the initial implementation of PPBS in the public sector. Unfortunately, whether knowingly or innocently, those who later jumped onto the bandwagon began to take liberties with the system by accepting that which was easiest to implement (and ignoring others) as well as shading the meanings for various dimensions of the system. Again, the rhetorical excesses that promised more than could be delivered and the honest or other-than-honest misinterpretations must assume some of the responsibility for the suspicion or rejection faced by program budgeting in education today.

This paper seeks to project the essence of PPBS by relating it to important factors or processes such as decision making, the budget-making process, zero-based budgeting, MBO, accountability, politics and policy making, systems management, and computers.

## PPBS and Decision Making

Decision making is a rational (as opposed to impulsive) choice-rendering process. The output or result of the procedures followed is a selection of one of several feasible alternatives to influence a future course of action. Much of the program budgeting in education literature either ignores its relation to decision making or provides only a passing or token reference to it. It is argued herein that decision making is what PPBS is all about and therein lies much of its value in educational administration. Program budgeting is a rational, disciplined, and sharply focused system for arriving at particular kinds of decisions. Dr. David Novick, who directed the RAND study on the use of the system in the federal government, stated that program budgeting "focuses on the decision making process, particularly on the problems of data and analysis."[1]

It is easy to get lost in the technical details of the complex system and thereby to lose the perspective of PPBS as a decision-making system. The challenge to confront the RAND team working with the U.S. Department of Defense, and later other federal departments or agencies, was how best to allocate scarce resources to many desirable but competing objectives, that is, to obtain "the most bang for the buck." What makes PPBS a valuable and exciting concept in education during the 1980s is that it is one way of helping an administrator to determine objectively the expenditure decisions in an environment of accountability and serious fiscal constraints. Again, as Novick put it:

> Since the objective is to improve the decision making in real life, and not in the philosopher's fancy, program budgeting pays special attention to questions of organization and administration, and the politics and pressures of the work-a-day world.[2]

It is regrettable in many respects that the word "budgeting" captures so much of the attention and that in neither of the two most popular terms for the system is there any explicit or implicit indication that the system is a decision-facilitating process. As will be amplified later, program budgeting does not deal with the budget process as a whole. Its finest contributions are on the expenditure side of the budget. The system has little to offer on the receipts side of budgeting. It would be more accurate to refer to PPBS as an expenditure decision-making system than as the final and complete answer to preparing, approving, or implementing a budget for a given fiscal period. The uniqueness of PPBS as a resource allocation decision-rendering system comes from its highly rational set of procedures for determining which choice from a set of alternatives for reaching a particular set of objectives shall be supported with the scarce funds available. The sections that follow will continue to build the case for PPBS as an important decision-making tool for the administration of public education.

## PPBS and the Budget-Making Process

In contrast to its decision-making orientation, which is not as readily apparent to most in education, budgeting is what most people believe PPBS or program budgeting is all about. Program budgeting does make a significant contribution and extends the more traditional conceptualization of the budgeting process. By the same token, PPBS neglects, that is, has little to offer, certain dimensions of budgeting as a fiscal management tool. These apparent contradictions in the perception of PPBS deserve further amplification.

The budgetary process as a whole is divided typically into the oft-stated phases of budget preparation, presentation, adoption and authorization, execution, and appraisal. Program budgeting makes its most significant contribution to the preparation phase, minor contributions to presentation and appraisal, and even less to the execution or implementation dimensions. The so-called classical model of the budget as a triangle has as its base the educational plan. The remaining two sides of the triangle are the expenditure plan and the receipts plan. PPBS is a way of approaching the development of the educational plan by stressing objectives and results of programs as well as the preparation of the expenditures plan through analysis of alternatives. On the other hand the system ignores, for all practical purposes, the generation of the receipts plan. Program budgeting simply assumes that resources are made available and offers nothing on where the receipts (sometimes called revenues) come from, how to estimate receipts from various sources, how to classify the receipts that come to the organization either by source or by purpose, whether to cluster resources available around program or other factors, how to analyze the various receipts, and so forth. Obviously, receipts cannot be ignored by budget makers. Novick makes an open and clear admission that the receipts, or revenue, side of budgeting is not part of the system in the following quotation found in one of the early publications in the field:

> This book concentrates on the program aspects of the budget. It purposefully avoids problems of fiscal policy, revenue, and related issues in order to explain in greater detail than would otherwise be possible the theory of program budgeting; . . .[3]

PPBS should not be confused with budget making alone, even though it has much to contribute to that process. Likewise, it should not be assumed from PPBS that the budget document is generated immediately following the completion of the first two "P's", that is, Planning and Programming. The third concept in PPBS, budgeting, does not refer to the totality that most fiscal managers associate with budget development and execution. Here again the economists gave a special, or other than the usual or common, meaning to budgeting. To explain this it is necessary to lay a foundation that is related to the unique contributions that PPBS makes to budget making in the public sector.

Program budgeting is best thought of as a rational approach to budgeting-by-objectives, results-oriented budgeting, or goal-focused budgeting. Planning, the first "P" in PPBS, is best interpreted as a process that produces a set of clearly stated, relevant, and measurable objectives to be achieved by the organization. Programming, the second "P" in PPBS, translates each objective into activities, functions, or strategies that contribute to the achievement of the objectives. There is the added proviso that at this stage it is premature to select one best way for achieving the objective. Rather, it is insisted that a set of alternative strategies be prepared in the programming dimension of the system for each of the objectives selected through the prior phase. Now comes the special interpretation for the third letter of PPBS, that is, Budgeting. Budgeting in this step means determining the fiscal requirements for implementation of each of the alternative strategies identified and related to an objective. In other words, this third phase focuses on how many dollars, personnel, space, or other resources are necessary to make each of the alternative strategies work. It must be emphasized that the system would be incorrectly interpreted if it were assumed that planning and programming are the only steps required to complete the preparation of the final budget document, as important as these may be to the system.

Not mentioned in the planning-programming-budgeting sequence is the next important step. The reason for specifying objectives, for identifying alternative strategies for reaching each objective and for the costing (or fiscal estimates determination) for implementation of each strategy is to facilitate analysis of each strategy in terms of the benefits and costs. The analysis dimen-

sion of program budgeting was the most neglected by those who sought to implement the system in public education some 10 to 15 years ago. One reason for this was that personnel with the competencies needed to execute the quantitative and sophisticated qualitative analysis were not available to most school systems. Without analysis the contributions of this system are not all that great, which may help to explain why many abandoned it. There would be little objective data or bases for the enhancement of resource allocation decisions by the administrator without completion of benefit-cost analysis. In short, to stop the process after only planning, programming, and budgeting would be to miss out on the full potential within PPBS.

Analysis does not in and of itself determine the decision. It is not a substitute for the judgment and experiences of the decision maker. It is a way to sharpen or improve the judgment of decision makers by clarifying objectives to be reached, strategies available, resources that must be expended in the pursuit of each of the alternative strategies, as well as the benefits and costs of each of the alternative strategies. To this the decision maker adds insights based on personal experience, acquired sensitivities, and political realities within the system and the community. Eventually a choice is made as to which objectives will be pursued, which strategies will be implemented, and what magnitude of expenditures shall be allocated for the strategies selected. These choices and their fiscal consequences are grouped to produce the expenditure side of a budget document. The system also demands that there be an after-the-fact appraisal of the resources allocated to determine the effectiveness of the strategies pursued and the degree to which the objectives were satisfied. The assessment of the budget document at the end of the fiscal period provides data of importance in the preparation of a program budget for ensuing years. This is part of the recycling process.

What was implemented in education under the program budgeting or PPBS some 10 or more years ago was more likely to be a new way of classifying expenditures into what were self-defined as program categories. The important dimension of analysis was overlooked almost completely because of the difficulties in implementing it. Likewise, the results of the expenditures made were of less consequence than the format for these early implementers. As Lyden and Miller put it:

> Regardless of whether PPB really constitutes something radically new under the administrative sun—and many argue that it does not—it does place a greater emphasis upon *program results* and *analytical techniques* which, if fully developed, promise to bring about marked changes in public management.[4]

Program budgeting did add a third level for the classification of expenditures in the budgeting process. First came the object of expenditures, and second, the functions or character of activities for which resources are expended. Each of these would now be grouped into program categories. In most school districts, program budgeting means a classification of expenditures by program, but the program may not be tied to one or more measurable objectives.

The crucial test of what constitutes a program is whether the activities or functions grouped under a given classification are tied together by or related to an objective. As stated in the now famous "Bulletin No. 66-3" issued by President Lyndon B. Johnson on October 12, 1965, and which called for the implementation of planning-programming-budgeting in all agencies of the federal government: "*Program categories* are groupings of agency programs (or activities or operations) which serve the same broad objective (or mission) or which have generally similar objectives." PPBS is a results-oriented approach to budgeting and any effort to establish program categories without prior specification of the outcomes to be achieved is a misinterpretation of the system. This was also a common shortcoming during the early effort to rush to implement program budgeting in education. In contrast to national and state standardization of terminology used in the classification of expenditures by object or by function/character, no such common terminology exists insofar as programs in education are concerned. Each school unit identifies what its programs shall be and what is or is not included within it.

The achievement of the outcomes sought, that is, the objectives, may not be accomplished in a period as short as a single fiscal year. For this and other reasons, the developers of program budgeting called for the budget to be prepared in a series of one fiscal year units to encompass a longer time frame of three to five years. The multi-year budget time frame (actually a series of one-year time frame units prepared at the same time) is easier to put into practice during times of relative price stability of programs or services purchased. Likewise, it is easier to prepare a series of one-year budgets at the same time during periods when there are only minor modifications in fiscal systems designed for the support of public education, that is, during times when local taxing authority, state education contributions, and federal education grants are expected to remain pretty much the same during the three to five year multi-year budgeting time frame. Galloping inflation and reform efforts in educational finance noted during the late 1970s, which are expected to continue during the 1980s, compound the problems of preparing a set of meaningful multi-year budget plans. As indicated earlier, one of the criticisms of the program-budgeting effort is that it fails to recognize and to deal effectively with the receipts side of budget document development. In all fairness, however, it must be stated that the developers of PPB never intended the projections for the third or fifth year to remain fixed or unchanged; they are revised annually as new data and experience dictates. The budget statement for each year beyond the next one is simply an indicator of trends and not intended to reflect the final statement of the budget for the institution for any future year three to five years hence.

The complexity of PPB as it relates to budgeting should be evident. It is not unlike the problem that faced the blind men trying to describe an elephant from each one's vantage point. The system is capable of varying interpretations depending upon which dimension is being examined. As Merewitz and Sosnick put it:

> The meaning of PPB has not become standardized; it means different things to different people. Some emphasize its restructuring budgets by accumulating expenditures under output categories that are more meaningful than the object categories which have become standard. Others stress its long time horizon: five years in the future and two previous years rather than the single budget year with two retrospective years for comparison. Other people associate PPB with benefit-cost, cost-utility, or systems analysis . . .
>
> In our view, PPB has five distinguishing features: program accounting, multi-year costing, detailed description of activities, zero-based budgeting, and quantitative evaluation of alternatives or benefit-cost analysis.[5]

Program budgeting transformed the usual concept of the budget document as an instrument of fiscal control by limiting expenditures (by and large) to those agreed upon beforehand to an instrument for planning, decision making, accountability, and fiscal control.

## PPBS and ZBB (Zero-Based Budgeting)

Zero-based budgeting, hereinafter called ZBB, is an alternative approach to what is called the incremental budget preparation method. Some writers identify ZBB with PPBS and others do

not. The more traditional approach to budget preparation for the next year is to start with the data in the budget documents for the past two most recent years plus the one for the current year. To this baseline data on the amount spent for programs in previous years may be added an increment for the program for the next budget year or there could be a reduction or the amount could remain the same. The point is that previous experience is used as the base for a budget amount for the next fiscal period. There is the implicit assumption that a program funded in previous years is likely to be continued with resources in future budget years. This assumed or seemingly automatic continuation without much question or serious review is what upsets the proponents of ZBB.

ZBB got its name because previous experience in funding a program is not accepted as the base for future budget preparation. Rather, every program starts with a base zero and must justify with hard data its continuation during any future fiscal period. It can be called a hard-nosed approach to budget preparation that assumes zero dollars at the start of each budget-planning period for each and every program supported in previous budgets. Previously existing programs must compete with new ones clamoring for budget support in a new fiscal period. ZBB is thus conceived as a way to get rid of budget deadwood, and the budget resources from these made available to more promising programs. No one can question that only the productive should survive.

The criticism of ZBB starts with the resources consumed to generate budget justifications for each and every budget year. A tremendous amount of paperwork is generated, a great deal of staff time is demanded, and substantial lead times are required to meet its demands. Some ask why bother if state laws demand that the basic skills be taught or there are civil rights laws that mandate transportation of pupils for the purposes of integration. If much of what is taught in the schools were optional or discretionary, then the arguments for the introduction of ZBB would be very persuasive. The discretionary programs or the real options are usually the first to be cut or scrapped entirely during times of fiscal stringency without reference to ZBB.

A considerable amount of rhetoric surrounds ZBB. Experience with it is limited. One of the best illustrations is the case of the U.S. Department of Agriculture, which tried to implement ZBB during the early 1960s. Wildavsky and Hamman, who admittedly could not be called proponents of ZBB which they identified as "comprehensive budgeting," reviewed the Department of Agriculture experience with ZBB and estimated the cost of using this approach to budget preparation as follows:

> If one makes the conservative estimate that at least 1,000 administrators above the level of clerk-typist and messenger were involved in bringing together parts of the zero-based budget throughout the Department of Agriculture and its many field offices, and that they spent an average of thirty hours a week for six weeks preparing the data, above and beyond their usual budgetary work, then at least 180,000 man-hours may be charged directly to this activity.[6]

The writers cited above were not trying to make a case for the accuracy of their cost estimates, but rather to demonstrate that the federal government received a very small rate of return for all the ZBB special efforts.

This writer argues that the case for PPB neither rests nor falls with ZBB. The two are separate and distinct approaches. The analysis and decision-making interpretation of PBBS would accomplish much the same and more of what is hoped could be achieved through ZBB. ZBB is thus interpreted as a redundant effort where all the elements of PPB prevail. My compromise position would be to start from base zero for a different set of (but not all) programs each year over a five-year cycle. Such base-zero reviews or justification during a periodic rather than annual cycle would reduce the paperwork and other resources consumed in ZBB.

## PPBS and MBO

Managment By Objectives (MBO) took its rise in the private sector during the mid 1950s. PPBS emerged in the public sector during roughly the same period of time. Program budgeting was introduced to education during the mid 1960s, but MBO didn't make such progress in education until the early 1970s. Had the reverse occurred, that is, had MBO been adapted to education first, it would have helped with the more disciplined implementation of PPBS. The competencies required to prepare clearly stated, relevant, and measurable objectives in the administration of public education didn't begin to emerge, to any significant degree, until the mid 1970s.

PPBS is a disciplined outcomes-oriented approach to decision making with special contributions for the preparation of the expenditure side of the budget. MBO is also results-oriented and could contribute to the successful implementation of PPBS. This is not to suggest that the two are identical, but there are areas of significant overlap with one capable of benefiting from common basic competencies demanded by the other. MBO in education tended to focus on outcomes-oriented administrator and other personnel appraisal systems. It never has been perceived as having application to budgeting. The conceptualization of PPBS, in part, as budgeting by objectives, suggests that there is no reason why it couldn't be. The preparation of quality and measurable objectives is demanded for operation in the MBO mode. This has obvious transfer possibilities for the implementation of program budgeting.

In short, PPBS and MBO can be classed as outcomes-oriented approaches and tools. They are not the same but are complementary.

## PPBS and Accountability

Accountability is defined by this writer as a set of demands for those who administer public institutions to document that they made optimum utilization of resources in the pursuit and achievement of desired goals. It begins with the specification of relevant objectives, continues with the determination of the effectiveness of strategies selected to reach objectives, and concludes with the assessment of the actual outcomes realized. School administrators are being held accountable for what the schools achieve or fail to achieve. Accountability is a means to an end: its purpose is to optimize the relationship between the resources allocated and the results achieved.

PPBS can help administrators satisfy acccountability demands. This is the only one of many reasons why this outcomes-oriented management tool may be useful to administrators during the remainder of this century at least. Program budgeting is one of the means for switching the focus from accountability for safeguarding and making best use of inputs to accountability for instructional and related educational results.

## Politics, Policies, and PPBS

Politics, in the best sense of the word, deals with some dimension of the public or the discharge of the public's business. It may be perceived as a way power is distributed or utilized in some branch of government or how access is gained to public decision-making power. A policy is a general declaration of intent to act in a particular manner or to achieve a stated result at some future point in time. A public policy is a statement of behavior or acts to be pursued by some public agency which may make explicit its goals, and strategies for reaching these goals,

that will enhance the image of the unit and give consistency to subsequent decisions and expenditures. The early writers on program budgeting noted the connection between it and policy making. As stated by Smithies: "The need for program budgeting arises from the indissoluble connection between budgeting and the formulation and conduct of national policy, or the policy of a state, a city, a town, as the case may be."[7] The contribution that PPBS makes to policy making is that it helps to frame the issues confronting a government agency.

PPBS is or should be a matter of concern for top echelon administrators and policy-making bodies. It would be unfortunate to view it primarily as a responsibility of the school's fiscal officer or business manager. The operation of the system demands involvement of all members of the administrative team, not the budget office alone. Through PPBS budgeting is placed squarely within the political framework, that is, there is a merging of the economics of public decision making with politics of public policy making.

There is a darker side to politics and program budgeting. Political activities on the far right began to perceive it as a means that government could employ to throttle individual expression. Some even saw PPBS as part of a communist plot to confuse government. It is hard to understand or explain these interpretations. These unfortunate criticisms appeared during the early 1970s and may have resulted in the abandonment of PPBS in some places.

## PPBS and Systems Management

Program budgeting is one expression of, and is a subset of, systems management. All the elements within it, namely, planning, programming, budgeting (or fiscal interpretation of alternatives), analyzing, deciding, evaluating, and recycling are interrelated to form an integrated system. Its emphasis on quantitative analysis, modeling, hard data, and framing of problems in manners to facilitate their resolution adds further evidence to its systems orientation.

Systems administration is more than a frame of mind, that is, an attitude toward how to approach the management of an institution. It is based on rational, disciplined, and objective procedures. The PPB system is a set of procedures consistent with systems orientation.

## PPBS and Computer Technology

PPBS is a complex system that demands a tremendous amount of data, manipulates a substantial number of variables, and conducts benefit-cost analysis of many alternative strategies. In large and complex government units pursuing many different types of programs at the same time, it is extremely difficult, if not impossible, to control or manipulate variables and data manually or without computers. The system works best when various dimensions of the educational system can be modeled and crucial data and other inputs are processed according to a planned computer program. One reason why PPBS failed to reach its potential during the early 1970s was that electronic computers were only beginning to be used with confidence and a measure of sophistication in education was emerging. This changed during the decade that followed. Computer power is now a resource found in many districts with at least access to such power available to others. There are software packages to help with the implementation of PPBS education. One can expect even greater development to further enhance the quality of computer-based processing during the rest of this century.

## Programming Budgeting—Can It Work in Education

To summarize what went wrong with PPBS in education during the early 1970s was that there: (1) prevailed an overabundance of rhetoric that obscured the substance of PPBS and ignored the discipline required to make it work; (2) were limited competencies in the preparation of clear, relevant, and measurable objectives demanded by PPBS; (3) was a misinterpretation of programming as an expenditure classification process without regard to objectives or results; (4) was a lack of capability to conduct the benefit-cost studies (analysis of alternatives) so essential to PPBS; (5) were serious limitations in computer programming and technology within education to cope with the data processing and analysis demands of PPBS; (6) was the failure to appreciate the power of PPBS in education as a resource allocation rather than simply another fiscal management tool of considerable complexity; and (7) intruded upon the scene an unfortunate misinterpretation of the nature of PPBS by those characterized as being on the far right of the political spectrum. There are others that could be added to the above.

Doubtless there are more specific reasons why a given school district either abandoned the system or failed to implement any or all dimensions.

The conditions likely to be experienced during the 1980s point to a probable revival of the basic concepts or approaches characteristic of PPBS either under the old or a new name. To begin with, many of the shortcomings noted above that applied to the field as a whole have been overcome in part or in whole. Thinking in terms of outcomes rather than processes or activities alone is hardly new today. Many districts have developed new capabilities in generating and managing by objectives. Quantitative analysis is less frightening or as easily misinterpreted as it was ten years ago. Its limitations as well as advantages are sensed by more educational administrators. Computers are more commonplace and utilized more effectively than ever before in education. It should be no serious problem to improve upon the software available to make PPBS work to strip more of the mystery than some may feel surround it. More could be said about the sophistication that has been gained in the application of systems management of public education. Being a perpetual optimist, this writer projects further developments along these lines to further increase the probability of harnessing decision technologies to the challenges facing educational institutions.

Capabilities gained are more likely to flourish because of conditions in the field or because the times encourage their utilization. The conditions in public education will call for more effective utilization of decision technologies such as PPBS. The old "seat-of-the-pants" and unsophisticated approaches have failed and have taken their toll on the schools and their administrators. The fiscal problems confronting public education are likely to intensify during the rest of the present decade and century. Witness the limitations being placed on local district taxing authority and cutbacks in state and federal contributions to education at a time when inflation and personnel costs are escalating. By the same token, expectations from educational systems will increase rather than lessen. People demand a higher quality of educational products who graduate from public schools. How to provide more with less will be the enigma, the major challenge. More effective utilization of the limited resources is one approach to this challenge. It has its limitations, of course. The need for systems that will enhance the quality of allocation decisions, such as PPBS will become more important as a result. The accountability pressures are not likely to lessen either. More arguments could be raised but the points have been made.

There may emerge better systems than program budgeting to

help meet the conditions with the capabilities that exist. Until they appear, it would behoove the profession to take advantage of the experience and potential that reside within PPBS. It does need further refinement to avoid what some call "paralysis through analysis," that is, not doing that which is urgent because the analysis is incomplete, or failing to make other necessary adaptions to education. For all its shortcomings, PPBS is a powerful tool that the profession can ill afford to let lie around unused and undeveloped.

## FOOTNOTES

[1]Novick, David, ed., *Program Budgeting*, A RAND Corporation Sponsored Study, Washington, D.C.: GPO, 1964, p. xii.
[2]Ibid.
[3]Ibid.
[4]Lyden, Fremont J., and Miller, Ernest G., eds., *Planning Programming Budgeting: A Systems Approach to Management* (Chicago: Markham Publishing Co.), 1967, p. 6.
[5]Merewitz, Leonard, and Sosnick, Stephen H., *The Budget's New Clothes* (Chicago: Markham Publishing Co.), 1971, pp. 1-2.
[6]Wildavsky, Aaron, and Hamman, Arthur, "Comprehensive Versus Incremental Budgeting in the Department of Agriculture," in F. J. Lyden and E. G. Miller, op. cit., pp. 161-62.
[7]Smithies, Arthur, "Conceptual Framework for the Program Budget," in David Novick, ed., op. cit., p. 2.

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Dr. S. J. Knezevich completed seven years as dean, USC School of Education, and resigned from that position as of July 1, 1981. He is presently on sabbatical devoting time and efforts to writing, research, special studies, and consulting. His sabbatical will conclude on March 1, 1982, at which time he will begin to enjoy early retirement. He served in numerous professorships including full-time positions at the University of Wisconsin-Madison, Florida State University, The University of Iowa, and Tulsa University. While at Iowa he also served as the first director of the Iowa Center for Research in School Administration. He was a science and math teacher as well as a school administrator in Wisconsin public schools for a total of ten years before becoming a professor of educational administration. He devoted five years at the American Association of School Administrators with assignments as an associate secretary, secretary to the Committee for the Advancement of School Administration, secretary to the Ethics Committee, and first director of the National Academy for School Executives. Knezevich has published extensively and his fourth edition of *Administration of Public Education* is being produced by Harper & Row and will appear late in 1982. Present areas of special study and interest in educational administration include: educational planning and policy development; international educational development; personnel appraisal and development; program bugeting; management by objectives; educational theory; and systems-oriented management techniques. He resides in Glendale, California.

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